AMENDMENT

Please enter the following amendments:

IN THE CLAIMS

Claims 2-4 are canceled without prejudice or disclaimer. Claim 5 is amended. Claims 7-30 are added. The following is a claim listing showing the claim status.

1. (original) A catalyst comprising:
a metal oxide support;
a coating comprising zinc on the metal oxide support; and
palladium in contact with said coating;
wherein the catalyst is possesses a volumetric productivity of at least 10,000 ml H_2 / ml catalyst·hr.

2. (canceled)

3. (canceled)

4. (canceled)

5. (currently amended) A method of making a catalyst, comprising the steps of:
providing a solid metal oxide support;
adding a solution comprising dissolved zinc to the solid metal oxide support;
adding a base to increase pH; and
subsequent to at least a portion of the step of adding a

base, depositing ~~a metal selected from the group consisting of~~ Pd.

6. (original) A catalyst made by the method of claim 5.

7. (currently added) The method of claim 5 wherein the metal oxide support comprises alumina, titania or zirconia.

8. (currently added) The method of claim 5 wherein the metal oxide support is deposited onto a large pore support.

9. (currently added) The method of claim 5 comprising a step wherein the zinc is completely dissolved in said solution.

10. (currently added) The method of claim 5 wherein there are no metals other than zinc in said solution.

11. (currently added) The method of claim 5 wherein said solution comprises 0.1 to 3 M zinc.

12. (currently added) The method of claim 5 wherein the base is added after the zinc solution is added.

13. (currently added) The method of claim 12 wherein base is added to result in a pH of 7 or greater.

14. (currently added) The method of claim 13 further comprising a step of calcining at 200 to 400 °C.

15. (currently added) The method of claim 12 wherein Pd is deposited from a solution.

16. (currently added) The method of claim wherein the solution comprising Pd further comprises Ru.

17. (currently added) The catalyst of claim 1 wherein the metal oxide support constitutes 50 to 90 wt% of the catalyst; zinc oxide constitutes 10 to 30 wt% of the catalyst; and Pd constitutes 1 to 15 wt% of the catalyst.

18. (currently added) The catalyst of claim 17 wherein the metal oxide support comprises alumina, titania or zirconia.

19. (currently added) The catalyst of claim 17 possessing a volumetric productivity of at least 40,000 ml H_2 / ml catalyst·hr.

20. (currently added) The catalyst of claim 17 possessing a volumetric productivity of 20,000 to 90,000 ml H_2 / ml catalyst·hr.

21. (currently added) The catalyst of claim 20 comprising 2 to 10 wt% Pd.

22. (currently added) The catalyst of claim 21 comprising 0.2 to 5 wt% Ru.

23. (currently added) The catalyst of claim 1 wherein the metal oxide forms a layer having a thickness less than 1 mm on a large pore support.

24. (currently added) The catalyst of claim 23 wherein the metal oxide forms a layer having a thickness less than 40 μm, and

the large pore support comprises a foam or felt.

25. (currently added) The catalyst of claim 23 wherein at least 50% of the catalyst's pore volume is composed of pores in the size range of 0.3 to 200 microns.

26. (currently added) The catalyst of claim 17 characterizable by a specific activity of greater than 1.5 mol methanol converted/(g catalyst)(hr) when tested at 400 °C, 25 msec contact time, 1.8 steam-to-carbon ratio with a pressure drop of less than 25 psig.

27. (currently added) An alcohol reforming reactor comprising the catalyst of claim 1.

28. (currently added) The alcohol reforming reactor of claim 27 wherein the catalyst is disposed in a flow-by configuration in a reaction chamber.

29. (currently added) The alcohol reforming reactor of claim 27 wherein the catalyst is disposed in a reaction chamber and wherein a microchannel heat exchanger is disposed adjacent to the reaction chamber.

30. (currently added) The alcohol reforming reactor of claim 29 further comprising an alcohol fuel source connected to the reaction chamber.